

***In the Claims:***

Please amend the claims as follows:

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28. (Twice amended) The method of claim 26, wherein said [two or more] recombination sites or portions thereof are located at or near one [or more termini] terminus of said double stranded nucleic acid molecule.

Please add the following new claims:

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52. The method of claim 26, wherein said recombination sites or portions thereof are located at or near one both termini of said double stranded nucleic acid molecule.

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53. The method of claim 26, further comprising combining said double stranded nucleic acid molecule with at least one vector comprising two or more recombination sites or portions thereof under conditions such that recombination occurs between said recombination sites on said nucleic acid molecule and said recombination sites on said vector, thereby producing a product vector.

54. The method of claim 26, further comprising inserting said double stranded nucleic acid molecule into a vector, thereby producing a product vector.

55. A method for cloning or subcloning an amplified nucleic acid molecule comprising:

(a) amplifying a nucleic acid template with a first primer comprising at least a first recombination site and a second primer comprising at least a second recombination site, wherein said first and second recombination sites do not recombine with each other, under conditions favoring the production of a product nucleic acid molecule complementary to all or a portion of said template and comprising said first and second recombination sites; and

(b) combining said product nucleic acid molecule with at least one vector comprising at least a third and a fourth recombination sites that do not recombine with each other, under conditions such that recombination occurs between said first and third and said second and fourth recombination sites, thereby producing a product vector.

56. The method of claim 55, wherein said amplification is accomplished by PCR.

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57. The method of any one of claims 53-55, further comprising inserting said product vector into a host cell.

58. The method of any one of claims 53-55, wherein said vector is an expression vector.

59. The method of any one of claims 53-55, wherein said vector comprises at least one additional nucleic acid sequence selected from the group consisting of a selectable marker, a

cloning site, a restriction site, a promoter, an operon, an origin of replication, and a gene or partial gene.

60. The method of any one of claims 53-55, wherein said vector comprises at least one origin of replication.

61. The method of any one of claims 53-55, wherein said vector comprises at least one promoter.

62. The method of any one of claims 53-55, wherein said vector comprises at least one selectable marker.

63. The method of claim 53 or claim 55, wherein said nucleic acid molecule and said vector are combined *in vitro*.

64. The method of claim 55, wherein said product nucleic acid molecule is linear.

65. The method of claim 55, wherein said first, second, third or fourth recombination sites are *lox* sites or mutants thereof.

66. The method of claim 65, wherein said *lox* sites are selected from the group consisting of *loxP* sites and *loxP511* sites.

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67. The method of claim 55, wherein said first, second, third or fourth recombination sites are *att* sites or mutants thereof.

68. The method of claim 67, wherein said *att* sites are selected from the group consisting of *attB* sites, *attP* sites, *attL* sites and *attR* sites.

69. The method of claim 55, wherein said first, second, third or fourth recombination sites are selected from the group consisting of a *lox* site, an *att* site, an FRT site, and mutants thereof.

70. The method of claim 53 or 55, wherein said product nucleic acid molecule and said vector are combined in the presence of at least one recombination protein.

71. The method of claim 70, wherein said recombination protein is Cre.

72. The method of claim 70, wherein said recombination protein is selected from the group consisting of Int, Xis and IHF.

73. An *in vitro* method of cloning a PCR product comprising:

- (a) obtaining a PCR product comprising a first recombination site and a second recombination site which do not recombine with each other; and
- (b) combining said PCR product *in vitro* with a vector comprising a third recombination site and a fourth recombination site which do not recombine with

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each other, under conditions such that recombination occurs between said first and third and said second and fourth recombination sites, thereby producing a product vector.

74. The method of claim 73, further comprising inserting said product vector into a host cell.

75. The method of claim 73, wherein said vector is an expression vector.

76. The method of claim 73, wherein said vector comprises at least one additional nucleic acid sequence selected from the group consisting of a selectable marker, a cloning site, a restriction site, a promoter, an operon, an origin of replication, and a gene or partial gene.

77. The method of claim 73, wherein said vector comprises at least one origin of replication.

78. The method of claim 73, wherein said vector comprises at least one promoter.

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Cont' 79. The method of claim 73, wherein said vector comprises at least one selectable marker.

80. The method of claim 73, wherein said PCR product is linear.

81. The method of claim 73, wherein said first, second, third or fourth recombination sites are *lox* sites or mutants thereof.

82. The method of claim 81, wherein said *lox* sites are selected from the group consisting of *loxP* sites and *loxP511* sites.

83. The method of claim 73, wherein said first, second, third or fourth recombination sites are *att* sites or mutants thereof.

84. The method of claim 83, wherein said *att* sites are selected from the group consisting of *attB* sites, *attP* sites, *attL* sites and *attR* sites.

85. The method of claim 73, wherein said first, second, third or fourth recombination sites are selected from the group consisting of a *lox* site, an *att* site, an FRT site, and mutants thereof.

86. The method of claim 73, wherein said product nucleic acid molecule and said vector are combined in the presence of at least one recombination protein.

87. The method of claim 86, wherein said recombination protein is Cre.

88. The method of claim 86, wherein said recombination protein is selected from the group consisting of Int, Xis and IHF. --

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